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# Ergonomics Computer-Based Training (CBT)

## Student Handbook



# USAF Ergonomics Computer Based Training

USAF School of Aerospace Medicine  
Course Numbers B6ERPM, B6ERBM  
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# Getting Started

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## Course Description

Welcome to the *USAF Ergonomics Computer-Based Training(CBT)* course. This program was developed for the U. S. Air Force School of Aerospace Medicine, Aerospace Education and Training Department (USAFSAM/AE). This course is intended to replace three previously offered in-residence ergonomic training courses. The new course provides a joint public health (PH) / bioenvironmental engineering (BE) course that may also be used by other DoD medical and safety professionals. This computer-based course replaces the classroom instruction with a self-paced, interactive, browser-based course that can be taken individually, at the students' home base.

The purpose of this course is to provide medical and safety personnel with knowledge and skills to anticipate, recognize, evaluate, and control ergonomic hazards. The course includes 19 modules, each containing 1 or more lessons. The course modules cover a variety of topics, such as:

- Work-Related Musculoskeletal Disorders and Ergonomics
- Basic Musculoskeletal Anatomy and Biomechanics/Physiology
- Risk Factors for Common Work-Related Musculoskeletal Disorders
- Governmental and Nongovernmental Ergonomic Guidance
- DoD and USAF Ergonomic Guidance
- Management Commitment and Marketing
- Passive Surveillance
- Active Surveillance and the Job Requirements/Physical Demands Survey
- Anthropometry
- Workstation Design
- Tool Design
- Job Analysis Using the Level One Ergonomic Guides
- NIOSH Lifting Equation
- Controlling Ergonomic Hazards
- Medical Management
- Tools That Can Be Used to Train the Trainer
- Ergonomics Program Review and Evaluation
- Technical Resources

The learning objective(s) for each module is supported with stated Samples of Behavior and interactive activities that allow for practice of newly learned information. The presentation method uses text, graphics, animations, illustrated examples, and links to references and glossary items. Each module has a corresponding section of review questions that may be taken at any time. The End of Course test is not included as part of the Ergonomics CBT course; rather, it is a controlled item to be administered by the AF Institute for Advanced Distributed Learning (AFIADL) and proctored by the local Base Education office.

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## Runtime Requirements

### ***Minimum System Requirements***

The Ergonomics CBT requires the following minimum workstation or laptop equipment and software:

- Pentium 175MHz (266 recommended)
- CD drive with 2x speed (24x recommended)\*
- 32 MB RAM (64 MB recommended)
- 5 MB of hard drive space available
- Windows ® 95/98/00, NT4.0
- Monitor capable of color display of 256 colors
- Adobe Acrobat Reader ® Version 4.0 or higher (included on the CBT CD)
- Internet Explorer 5.0 or higher
- Sound card, speakers

This CBT uses programming with a long file naming convention. Some older 2X CD-ROM drives can only read short file names (8.3 format), even though the computer can read long file names.

### ***Browser Internet Options and Settings***

Because the CBT course runs entirely through browser windows (I.E 5.0) and is an interactive course, there are certain internet preference settings that must be selected so that you may view all course materials and interact during the practice exercises.

The following browser settings are necessary for full course functionality:

- “Always Accept Cookies”
- “Java JIT compiler enabled”
- “Play sounds”

In your Internet Explorer 5 window, select “Tools” from the pull down menu and choose “Internet Options.” Click the “Advanced” tab in the upper right hand side of the screen. The above items in the scrolling list should have a check or a dot beside of them. In addition, the following security settings are necessary:

- “Java permissions” can be set to “High safety”
- “Scripting for Java applets” should have “Enable”
- “Active Scripting” should have “Enable”

In your Internet Explorer 5 window, select “Tools” from the pull down menu and choose “Internet Options.” Click the “Security” tab at the top of the screen. Click on the small dot beside “Custom,” then click the button labeled “Settings.” The above items in the scrolling list should have a check or a dot beside them.

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## Technical Assistance / Comments on Course

For technical assistance or to provide comments on the course:

Mailing:

Operational Health Branch, USAF SAM/AEEO  
2602 West Gate Rd  
Brooks AFB, TX 78235

Telephone:

DSN 240-3832  
Comm (210) 536-3832

For course and course supervisor information, visit

<http://wwwsam.brooks.af.mil/web/be>

then click on "Courses."

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## Installation Instructions

### ***Why Install?***

The Ergonomics CBT installation is optional. The fully functional course can be run from the CD without additional installation or set-up, providing that the system requirements are met.

Installation of the Ergonomics CBT does the following:

- Places a shortcut to the program on your desktop, so that you may run the course by simply "double clicking" on the course icon.

### ***How to Install***

1. Insert the ErgoCBT CD into your CD-ROM drive.
2. Double click "My Computer" on your Windows desktop.
3. Double click your CD-ROM drive, which should now be labeled "ERGOCBT."
4. Double click the "CBT" folder on the CD.
5. Right click (using the mouse) on the ErgoCBT file.
6. Using the pop-up menu that appears, select "Send To."
7. Within the "Send To" menu, select "Desktop (create shortcut)."
8. That's it! An icon should now be on your desktop, linking to the ErgoCBT. Keep in mind you will still need to have the ErgoCBT in your CD-ROM drive in order to run the course.

If you need to Install Adobe Acrobat Reader 4.0, you can follow steps 1-3 above, and then double click the folder "Acrobat." Then simply double click the installation file located within the directory. The Acrobat installation program will prompt you with further directions.

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## Starting the Course

Once the course icon and Adobe ® Acrobat Reader are installed, you may start the Ergonomics CBT by following these steps:

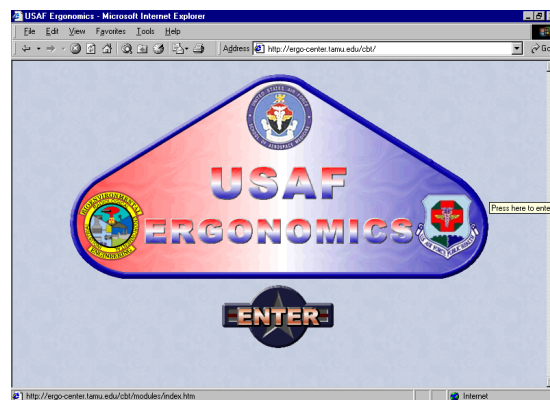
1. Place the CBT CD in your CD drive.
2. Double click on the course icon, which should now be on your desktop.
3. The program will open Internet Explorer 5.0 and begin.

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## Taking the Course

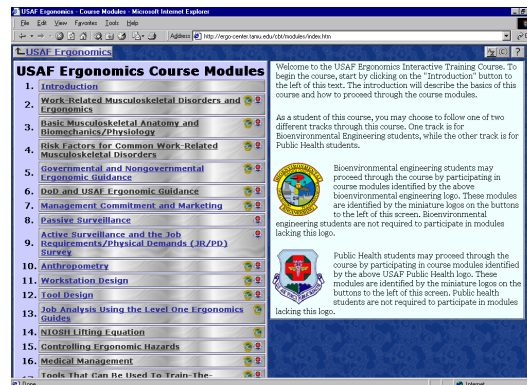
### Course Navigation

The main page of the course is a screen looking something like this:

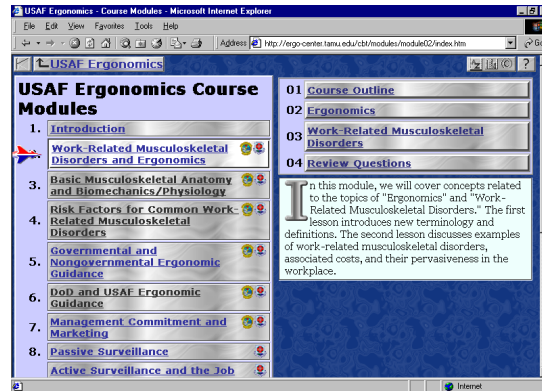


The course begins when you click on the “Enter Button” at the bottom of the screen.

Once you enter the module, you are presented with the following screen:

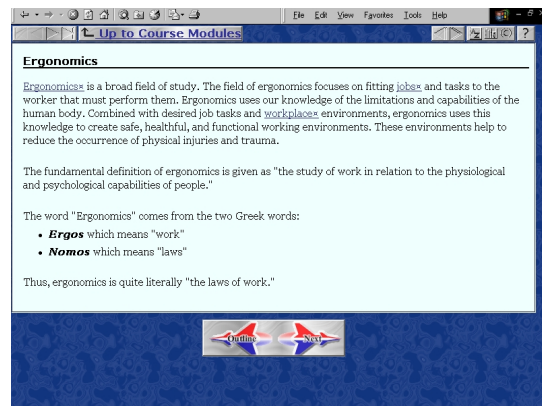


This is the main course navigation screen. From here you can access all of the modules contained in the course. The modules are listed on the left hand side, and specific information about the current selection is presented on the right hand side. For example, if you click on Module 2, you will get a screen looking like this:



The left side of the screen now displays the lessons contained within Module 2. To begin instruction with Module 2, you would start with the Course Outline, or you could proceed directly to any of the lessons contained within Module 2.

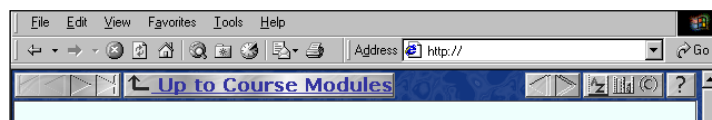
Once within a lesson, you are presented with a screen resembling the following:



This is the screen you will normally see while within a lesson. The next two sections of this chapter explain this screen in greater detail, and the two basic types of navigating within a module: top navigation and bottom navigation.

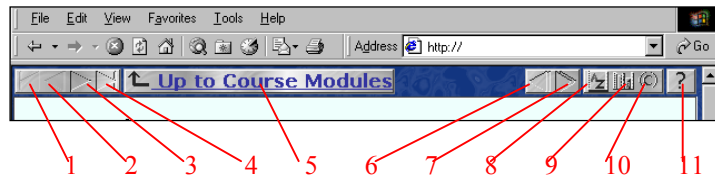
## Top Navigation

Top navigation involves navigating using the numerous buttons at the top of the screen. A close up of this area looks something like this:





The following is a description of the purpose of each of these buttons.



1. Introduction – Moves to this lesson's introduction.
2. Previous Slide – Moves to the previous slide.
3. Next Slide – Moves to the next slide.
4. Summary – Moves to this lesson's summary.
5. Course Modules – Moves to the course module list.
6. Previous Lesson – Moves to the beginning of the previous lesson.
7. Next Lesson – Moves to the beginning of the next lesson.
8. Glossary – Moves to the course glossary.
9. Bibliography – Moves to the bibliography for the current lesson.
10. Copyright – Moves to the course copyright information.
11. Help Navigating – Moves to a page that provides information on lesson navigation.

## Bottom Navigation

Bottom navigation revolves around using the buttons at the bottom of the screen. These two buttons typically look like this:



The button on the left is the “Previous” button, while the button on the right is the “Next” button. These two buttons may change in function depending on your location in the course.

If you are on the first page of the first lesson of a module, the “Previous” button will take you to the module outline, whereas if you are in the middle of a lesson, it will take you to the previous slide.

This change in function applies to the “Next” button as well. At the end of a lesson, it will take you to the next lesson, while in the middle of a lesson it will take you to the next slide.

## ***Answering Review Questions***

There are two methods on proceeding to the Review Questions. You may enter the Review Questions from the Course Modules page simply by clicking on the Review Questions button, or you may enter the Review Questions by following the natural progression of the Course Module. Each question will have the following navigational tools to help traverse through the Review Questions section.

Check answer for current question:



Review material where answer is located:



View answer:



Answer the question as best you can and then proceed by clicking on the "Check Answer" button. If you do not know the answer, you may proceed by clicking on the "Review" button. This will open a new window at the location where you can review the material to answer the question. Finally, if you still are unable to get the answer, click on the "Answer" button to retrieve the answer.

## ***Video and Pictures***

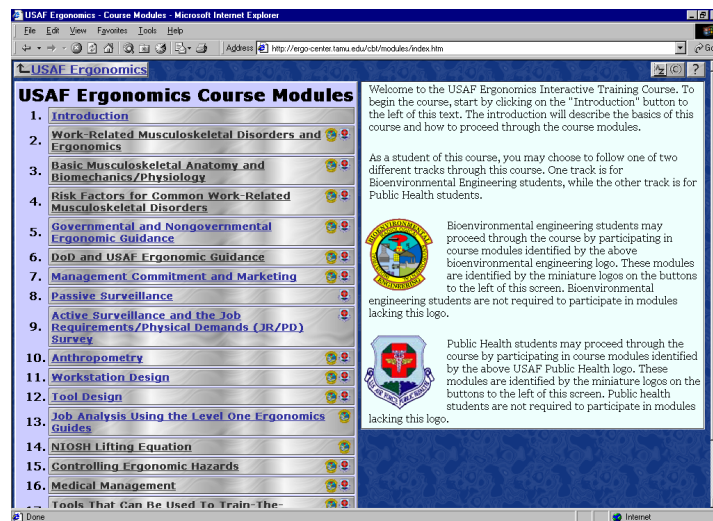
The Ergonomics CBT includes numerous pictures and video. Both of these have been designed so that they are displayed automatically. If the video or the pictures do not run or display properly, proceed to the "Troubleshooting" chapter of this handbook.

# Course Contents

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## Main page

This is the main CBT page. From here you can access all of the course modules, outlines, lessons, and review questions.



The course modules are located on the left hand side of the page. To view a module, simply click on its button.

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## Course Modules

### *Introduction*

The first module of the course is titled "Introduction." This module outlines the general format of the course, and presents the two different tracks contained within the course (one for PH and another for BE). After viewing the introduction, you are ready to proceed with the course's content modules.

## ***Content Modules***

The bulk of the course consists of “content modules.” These are the modules that contain the course’s content. There are 17 content modules, covering a wide range of topics within ergonomics. These topics include (by module number):

2. Work-Related Musculoskeletal Disorders and Ergonomics
3. Basic Musculoskeletal Anatomy and Biomechanics/Physiology
4. Risk Factors for Common Work-Related Musculoskeletal Disorders
5. Governmental and Nongovernmental Ergonomic Guidance
6. DoD and USAF Ergonomic Guidance
7. Management Commitment and Marketing
8. Passive Surveillance
9. Active Surveillance and the Job Requirements/Physical Demands Survey
10. Anthropometry
11. Workstation Design
12. Tool Design
13. Job Analysis Using the Level One Ergonomic Guides
14. NIOSH Lifting Equation
15. Controlling Ergonomic Hazards
16. Medical Management
17. Tools That Can Be Used to Train the Trainer
18. Ergonomics Program Review and Evaluation

## ***Technical Resources Module***

The final module in the course, module 19, is the course’s “Technical Resources” module. This module’s main content includes a list of ergonomics services and resources available to the student from various organizations. These organizations include the Institute for Environment, Safety, and Occupational Health Risk Analysis (IERA), NIOSH, and OSHA.

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## **Review Questions**

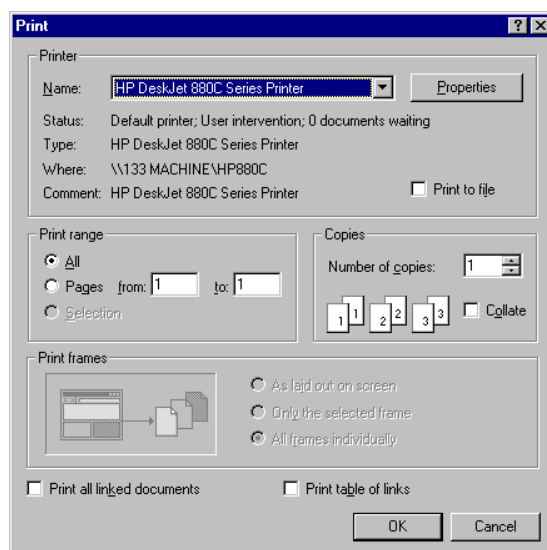
Within each module, there is a section called “Review Questions.” These are short self tests that cover the material within a specific module. Successfully completing each of these self tests will help to ensure that the student is capable of passing the course’s final examination. For help on how to use the review questions, refer to this handbook’s section on review questions in the chapter “Getting Started.”

# Frequently Asked Questions (FAQ)

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## Question: How do I print a single screen?

Answer: In your browser, you can select “File” from I.E. 5.0’s menu, and then select “Print.” Under “Print Frames” choose the format that you wish. Click “OK.” The print box will look like this:



## Question: How do I print all of the screens in a lesson?

Answer: A quick way to print the entire lesson is to print the outline with all linked documents. In Microsoft Internet Explorer, right-click in a **white** area of the outline (**not** on a link), select **Print**, then check the box for Print all linked documents. After you hit the **OK** button, your printer will give you the outline, and every screen of the material linked to the outline, each on a separate sheet of paper.

To print individual screens or pages, in Microsoft Internet Explorer, right-click in a background area of the page you are on (**not** on a link), select **Print**, and then hit the **OK** button. The current screen will print.

### **Question: How do I print a module's review questions?**

Answer: A quick way to print the review questions for a lesson is to go to the module's outline, and highlight all of the review questions. Do this by dragging the mouse, with the left mouse button held down, over the part of the outline that lists the review questions. Then, in Microsoft Internet Explorer, right-click in a **white** area of the outline (**not** on a link), select [Print](#), then check the box for [Selection](#) and [Print all linked documents](#). After you hit the [OK](#) button, your printer will give you the review questions, each on a separate sheet of paper.

### **Question: How do I use the course interactions?**

Answer: To use an interaction, click on the link that opens the interaction. Then, you can step through the interaction following the onscreen prompts.

### **Question: Where can I go for additional resources or references?**

Answer: The final module of the course, Module 19, is a module that focuses on providing additional technical resources. In addition, each module has its own bibliography that can provide valuable information about additional resources.

### **Question: I have lost my place in a course...How do I get where I need to be?**

Answer: Click on the button "Up to Course Modules," which will take you to the overall course module list. Then, click on "Course Outline" on the right and you will be presented with the course outline, which should let you know where the information is that you are looking for.

# Adobe ® Acrobat Reader

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Most of the reference material included with this course is presented in a file format that can be read by the Adobe Acrobat Reader ®. All files ending in the **.pdf** extension are "portable document format" files and are displayed on screen, as they would appear on paper. Files that are in **.pdf** format are also searchable. The following section gives you a brief overview of the features you are most likely to use with the Adobe Acrobat Reader ® program. If you are new to Adobe Acrobat Reader ®, you may wish to view more information and take the Tutorial Help system that comes with the program.

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## Adobe Acrobat Controls

### **Acrobat Reader ® Toolbar Buttons**

The Adobe Acrobat program's toolbar and window controls allow you to move the display according to your viewing demands while looking at the course references. A few of the more common controls and toolbar functions that you may find helpful are listed here.






Adobe Acrobat Toolbar Controls		
Button	Function	Description
	<b>Zoom-in tool</b>	Press this button to change to the cursor to the zoom-in tool. The cursor changes to a magnifying glass icon. Move the cursor to the desired area of the displayed item and click: the view zooms in. Continue clicking to <b>increase the zoom</b> up to the maximum 800% view
	<b>Hand tool</b>	This tool is the default selection each time a PDF document is first opened. With this tool you can grab and drag <b>the image</b> right, left, up or down, on your screen.
	<b>Text selection tool</b>	Press this button to change to the text selection tool. The icon will change to the large double-bracket-looking icon. With this tool you can <b>select text from the displayed document</b> . The text can then be copied to your Windows clipboard (CTRL-C) and then pasted (CTRL-V) into another application that accepts clipboard text (e.g., word processor, e-mail). Note that this text selection works only if the document you are viewing is text-based. Some documents are actually only pictures of text (.bmp images) and you cannot select the text or search it.
	<b>Hot links</b>	By moving the hand tool or the zoom-in tool around on the screen you can identify hot links when the cursor changes to this pointer icon. When the cursor changes to this icon, click it <b>to go to the link</b> set at that location. (You can use Previous View to retrace your steps back, if you choose.)



	<b>First Page</b>	Press this button to <b>go to the first page</b> in the document.
	<b>Last Page</b>	Press this button to <b>go to the last page</b> in the document. This button is not active if there is only one page in the document or if you are currently displaying the last page.
	<b>Previous page</b>	Press this button to <b>go to the previous page</b> of the current document. This button is not active if there is only one page or if you are on the first page of a document.
	<b>Next page</b>	Press this button to <b>go to the next page</b> of the current document. This button is not active if there is only one page or if you are on the last page of a multi-page document.

### ***Acrobat Reader ® Window Controls***


The following are some of the window control options available to you inside Acrobat Reader. These controls are located in the upper right corner of the window.

Button	Function	Description
	<b>Full Screen View</b>	Press this button to open the window to full screen size. Note that this could bring the application or the document to full window: The button on top controls the Acrobat Reader ® application; the button on bottom controls the document inside the application.
	<b>Restore View</b>	Press this button to restore the view to the less-than-full-screen size view.
	<b>Close Window</b>	Press this button to close the current window.
	<b>Minimize</b>	Use this control to minimize (shrink) the document or the application to an icon.
	<b>Scroll</b>	Click on the left/right arrows shown in this display to scroll the image left or right. This area becomes inactive if the zoom is set so that the entire image can be seen on the screen.

## Searching Text Documents

You can search for text while a reference (.pdf) document is open in an Acrobat Reader ® window. Note that not all pdf documents are text based; some are scanned images that contain text. If a document cannot be searched, chances are it contains images of text and not actual text.

To search for desired text, follow these simple steps.

2. Click on the search tool button. 
3. The find dialog box will display.
4. Key in the desired word or phrase.
5. Click on Find or press the Return key. If the word or phrase exists in the document the display changes to that location on the text, with the word or phrase highlighted, as shown below.
6. To continue to the next occurrence, press CTRL-G.

## Returning To the Lesson

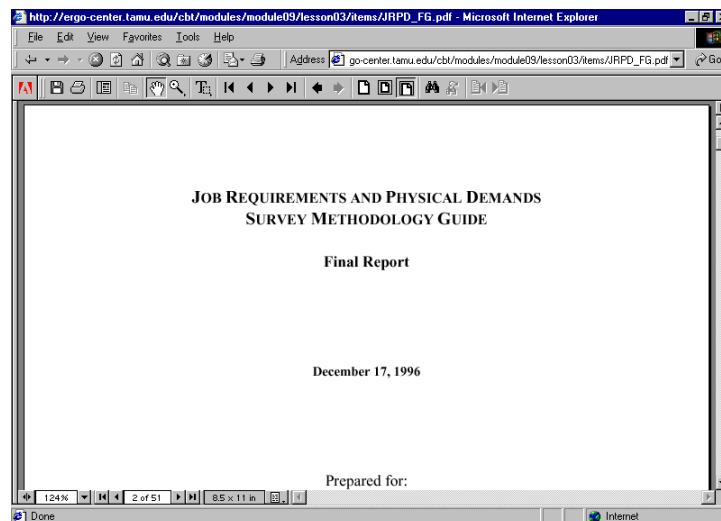
References cited within a lesson provide a direct link that allows you to open the document while in the lesson. To return to the lesson at anytime:

If Reader opened its own window:

*Simply close the Acrobat Reader ® window or minimize the References window. For quickest response later to other references, close the PDF document, and then shrink the Adobe Acrobat Reader ®. The next time you call for a reference, the Reader ® will already be running and the document will open immediately.*

If Reader opens within the I.E. 5.0 main window:

*Simply hit the “Back” button on Internet Explorer.*



# Troubleshooting

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## **Problem: I have lost my place in a lesson. How do I get re-oriented?**

Answer: Click on the button “Up to Course Modules,” which will take you to the overall course module list. Then, click on “Course Outline” on the right and you will be presented with the course outline, which should let you know where the information is that you are looking for.

*(Note: this information is also in the FAQ chapter of this handbook)*

## **Problem: The text in a Lesson seems to be running off the screen.**

Solution: This application requires a font setting of medium in Internet Explorer 5 and a font setting of small in windows. **Before you check/change these on your system, you may wish to record your original settings so that you can reset them after completing the CBT course.**

First, check your browser font setting by following these steps:

1. In Internet Explorer 5, select “Tools” from the pull down menu at the top of the window.
2. Choose “Internet Options.”
3. When the Internet Options window displays, click on the tab labeled “General” in the upper left hand.
4. Click on the button labeled “Fonts” at the bottom of the window.
5. When the new Fonts Window displays, make sure that “Font Size” is set to “medium.”
6. Click “OK” and then “OK.”

Next, check your Windows font setting by following these steps:

1. In Windows, click the “Start” button, which is usually found in the lower left-hand side of the screen.
2. Choose “Settings” and then “Control Panel.”
3. From the Control Panel window, double click the “Display” icon.
4. Select the “Settings” tab in the upper right hand of the new window.
5. Make sure “Font Size” is set to “Small Fonts.”
6. Click “Apply” and then “OK.”

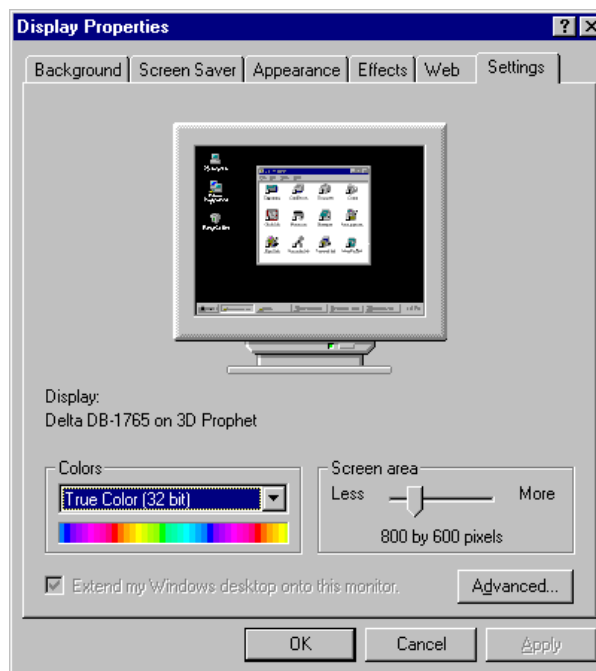
## Problem: The colors of the graphics look distorted or “dirty.”

Solution: When this application runs at 256 colors, the screen must recalculate which 256 colors to display when a graphic appears. If a graphic has more than 256 colors, then some will not be shown. To solve this problem, you must set your display to a high color number if possible. Most computers that are three years old or newer have optional settings of true bit, high color, millions of colors, or some setting above 256 colors.

To check/change your monitor's color settings, follow these steps:

1. In Windows, click the “Start” button (which is usually found in the lower left-hand side of the screen).
2. Choose “Settings” and then “Control Panel”.
3. From the Control Panel window, double click the “Display” icon.
4. Select the “Settings” tab in the upper right hand of the new window.
5. Under “Color Palette”, select an amount of colors higher than 256. Possible color settings could be: 65536 colors, 16777216 colors, 24 bit, 32 bit, high color, and true color. The color options will vary on every machine. For more information about available color options, refer to your computer's documentation.
6. Click “Apply” and then “OK.”

The window will look something like this:



**Problem: Images and text do not appear to be placed correctly, or are disorganized.**

Solution: This application was developed to Internet Explorer 5.0 design specifications. If viewed in other browsers, such as Netscape or older versions of Internet Explorer, images and text may appear in incorrect areas and ways. For accurate displaying, you must use Internet Explorer 5.0 or higher.

# Appendix A: PDF File Locations

As mentioned previously in this document, “.pdf” files are documents that are read by Adobe Acrobat ® Reader. Therefore, to view the following “.pdf” documents, Adobe Acrobat ® Reader must be installed. The installation of Reader is included on this CD, and is part of this course’s installation process.

Due to the wide range of content covered in this course, there are several guidelines and standards that are referenced within the course. Most of these documents are contained on the CBT CD. This appendix documents the location of the document “.pdf” files on the CBT CD.

*Note: The forms used in the JR/PD Survey, as well as those used in the Level 1 Ergonomics Guide are also printed in this handbook, under appendices B & C respectively. Additionally, there are 3 variants of the Level 1 guide; all three are on the CD.*

The locations presented here are the “folder” or “directory” on the CD where the document is located. The “X” in the location indicates your CD drive letter. There may be several files within a single folder if the document is composed of multiple files (for example, the Level 1 Guide for Maintenance is comprised of over 60 files!). For documents with multiple files, the main document’s filename is also indicated for your convenience.

Document Title	Location	Main Filename
JR/PD Survey	X:\documnts\jrpd	JRPD_FG.pdf
JR/PD Survey Forms (updated)	X:\documnts\jrpdfirms	JRPD_FRM.pdf
Level 1 Ergo. Guides [NEW]	X:\documnts\level1\NEW	USRGUIDE.DOC
Level 1 Ergo. Guide (AD) [OLD]	X:\documnts\level1\OLD\AD	AD_GUIDE.PDF
Level 1 Ergo. Guide (WS) [OLD]	X:\documnts\level1\OLD\WS	TOC1&2.PDF
Level 1 Ergo. Guide (MI) [OLD]	X:\documnts\level1\OLD\MI	MI_GUIDE.PDF
OSHA Proposed Ergonomics Std.	X:\documnts\OSHA\standard	FED19991123.pdf
OSHA Meatpacking Guidelines	X:\documnts\OSHA\meatpack	Osha3123.pdf
NIOSH Lifting Guidelines	X:\documnts\NIOSH\liftguid	94-110.pdf
NIOSH Elements of Ergo Programs	X:\documnts\NIOSH\elements	97-117.pdf

# Appendix B: JR/PD Survey Forms

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This appendix presents the updated forms for the JR/PD survey on the following pages. For their use, please refer to the JR/PD Survey guide located on the course CD.





**Do not mark unless instructed.**

## Location Information

[illegible][illegible][illegible]

# Organization Information

## 13. BUILDING

A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
0	0	0	0	0	0	0	0	0	0
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2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

## 14. ROOM

A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
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6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

## 15. Job Code

Civilian (Job Series)

Example: 00803

(Safety Engineer)

Army/Marines (MOS)

Example: 7041

Air Force (AFSC)

Example: 1A100

Navy NOBC (Officers)

NEC (Enlisted)

Example: 9502

A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
0	0	0	0	0	0	0	0	0	0
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7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

## 16. Pay Plan and Grade

Examples:

GS-5 would be:

GS05

WG-3 would be:

WG03

E-3 (Enlisted)

would be:

E03

O-4 (Officer)

would be:

O04

A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z
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6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

## A. Description of Work

This section asks you to describe what is involved in your job. Indicate how long you do this work on approximately a daily basis.

### Shoulder / Neck

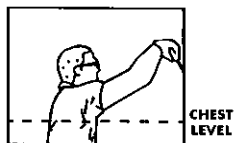


Figure A

1. I work with my hands at or above chest level. (Figure A) . . .

2. To get to or to do my work, I must lay on my back or side and work with my arms up . . . . .

3. I must hold or carry materials (or large stacks of files) during the course of my work . . . . .

4. I force or yank components or work objects in order to complete a task . . . . .



Figure B

5. I reach or hold my arms in front of or behind my body (e.g., using a keyboard, filing, handling parts, performing inspection tasks, pushing or pulling cards, etc.). (Figure B) . . . . .



Figure C

6. My neck is tipped forward or backward when I work. (Figure C) . . . . .



Figure D

7. I cradle a phone or other device between my neck and shoulder. (Figure D) . . . . .

	NEVER	0-2 HOURS	2-4 HOURS	4-8 HOURS
1. I work with my hands at or above chest level. (Figure A) . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. To get to or to do my work, I must lay on my back or side and work with my arms up . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I must hold or carry materials (or large stacks of files) during the course of my work . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I force or yank components or work objects in order to complete a task . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I reach or hold my arms in front of or behind my body (e.g., using a keyboard, filing, handling parts, performing inspection tasks, pushing or pulling cards, etc.). (Figure B) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. My neck is tipped forward or backward when I work. (Figure C) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I cradle a phone or other device between my neck and shoulder. (Figure D) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## A. Description of Work (continued)

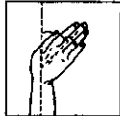
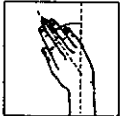
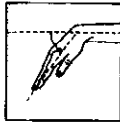


Figure E



Figure F

### Hand / Wrist / Arm

8. My wrists are bent (up, down, to the thumb or little finger side) while I work. (Figure E) . . . . .
9. I apply pressure or hold an item/material/tool (e.g., screwdriver, spray gun, mouse) in my hand for longer than 10 seconds at a time. . . . .
10. My work requires me to use my hands in a way that is similar to wringing out clothes. (Figure F) . . . . .
11. I perform a series of repetitive tasks or movements during the normal course of my work (e.g., using a keyboard, tightening fasteners, cutting meat, etc.) . . . . .
12. The work surface (e.g., desk, bench, etc.) or tool(s) that I use presses into my palm(s), wrists(s) or against the sides of my fingers leaving red marks on or beneath the skin. . . . .
13. I use my hand/palm like a hammer to do certain aspects of my work . . . . .
14. My hands and fingers are cold when I work . . . . .
15. I work at a fast pace to keep up with a machine production quota or performance incentive . . . . .
16. The tool(s) that I use vibrates and/or jerks my hand(s) and arm(s) . . . . .
17. My work requires that I repeatedly throw or toss items. . . . .
18. My work requires that I twist my forearms, such as when turning a screwdriver . . . . .
19. I wear gloves that are bulky or that reduce my ability to grip . . . . .
20. I squeeze or pinch work objects with a force similar to that which is required to open a lid on a new jar . . . . .
21. I grip work objects or tools as if I am gripping tightly onto a pencil . . . . .

	NEVER	0-2 HOURS	2-4 HOURS	4-8 HOURS
8. My wrists are bent (up, down, to the thumb or little finger side) while I work. (Figure E) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I apply pressure or hold an item/material/tool (e.g., screwdriver, spray gun, mouse) in my hand for longer than 10 seconds at a time. . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. My work requires me to use my hands in a way that is similar to wringing out clothes. (Figure F) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I perform a series of repetitive tasks or movements during the normal course of my work (e.g., using a keyboard, tightening fasteners, cutting meat, etc.) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. The work surface (e.g., desk, bench, etc.) or tool(s) that I use presses into my palm(s), wrists(s) or against the sides of my fingers leaving red marks on or beneath the skin. . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I use my hand/palm like a hammer to do certain aspects of my work . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. My hands and fingers are cold when I work . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I work at a fast pace to keep up with a machine production quota or performance incentive . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. The tool(s) that I use vibrates and/or jerks my hand(s) and arm(s) . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. My work requires that I repeatedly throw or toss items. . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. My work requires that I twist my forearms, such as when turning a screwdriver . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I wear gloves that are bulky or that reduce my ability to grip . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I squeeze or pinch work objects with a force similar to that which is required to open a lid on a new jar . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I grip work objects or tools as if I am gripping tightly onto a pencil . . . . .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## A. Description of Work (continued)

### Back / Torso



Figure G

22. When I lift, move components, or do other aspects of my work, my hands are lower than my knees. (Figure G) .....

23. I lean forward continually when I work (e.g., when sitting, when standing, when pushing carts, etc.) .....

24. The personal protective equipment or clothing that I wear limits or restricts my movement. ....

25. I repeatedly bend my back (e.g., forward, backward, to the side, or twist) in the course of my work .....

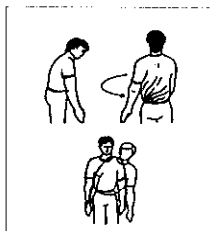


Figure H

26. When I lift, my body is twisted and/or I lift quickly. (Figure H) .....

27. I can feel vibration through the surface that I stand on or through my seat (e.g., when operating a forklift, truck, etc.) ..

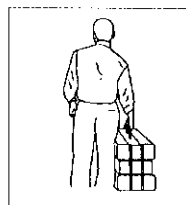


Figure I

28. I lift and/or carry items with one hand. (Figure I) .....

29. I lift or handle bulky items .....

30. I lift materials that weigh more than 25 pounds .....

NEVER	0-2 HOURS	2-4 HOURS	4-8 HOURS
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## A. Description of Work (continued)

### Legs / Feet



Figure J

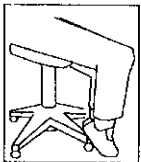


Figure K

31. My work requires that I kneel or squat. (Figure J) .....

32. I must constantly move or apply pressure with one or both feet (e.g. using foot pedals, driving, etc.) .....

33. When I'm sitting, I cannot rest both feet flat on the floor. (Figure K) .....

34. I stand on hard surfaces .....

	NEVER	0-2 HOURS	2-4 HOURS	4-8 HOURS
31. My work requires that I kneel or squat. (Figure J) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. I must constantly move or apply pressure with one or both feet (e.g. using foot pedals, driving, etc.) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. When I'm sitting, I cannot rest both feet flat on the floor. (Figure K) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. I stand on hard surfaces .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Head / Eyes

35. I can see glare on my computer screen or work surface .....

36. It is difficult to hear a person on the phone or to concentrate because of other activity, voices, or noise in/near my work area. ....

37. I must look at the monitor screen constantly so that I do not miss important information (radar scope) .....

38. It is difficult to see what I am working with (monitor, paper, parts, etc.) .....

	NEVER	0-2 HOURS	2-4 HOURS	4-8 HOURS
35. I can see glare on my computer screen or work surface .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. It is difficult to hear a person on the phone or to concentrate because of other activity, voices, or noise in/near my work area. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. I must look at the monitor screen constantly so that I do not miss important information (radar scope) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. It is difficult to see what I am working with (monitor, paper, parts, etc.) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## B. Organizational Factors

This section asks you to describe organizational factors present in your current work environment.

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
39. I often feel unclear as to what the scope and responsibilities of my job are. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. I often feel that I have too heavy of a workload, one that I could not possibly finish during an ordinary workday .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. I often feel that I will not be able to satisfy the conflicting demands of various people around me. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. I often find myself unable to get information needed to carry out my job. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. I often do not know what my supervisor thinks of me ,or how he/she evaluates my performance. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. I often think that the amount of work I have to do interferes with how well it is done. ....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## C. Physical Effort

45. How would you describe the physical effort required of your job?.

1 No exertion at all	2 Extremely light	3	4 Very light	5	6 Light	7	8 Somewhat hard	9	10 Hard	11	12 Very hard	13	14 Extremely hard	15 Maximal exertion
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## D. Discomfort Factors

This section enables you to identify how your body responds to the demands of your job.



### For Shoulder/Neck

46. In the past 12 months have you experienced any discomfort, fatigue, numbness, or pain that *relates to your job*?

☐ No ☐ Yes

How often do you experience discomfort, fatigue, numbness, or pain in your shoulder/neck region?  
Mark only one.

☐ Daily  
☐ Weekly  
☐ Monthly

On average, how severe is the discomfort, fatigue, numbness, or pain in your shoulder/neck region?  
Mark only one.

☐ Mild  
☐ Moderate  
☐ Severe



### For Hand/Wrist/Arm

47. In the past 12 months have you experienced any discomfort, fatigue, numbness, or pain that *relates to your job*?

☐ No ☐ Yes

How often do you experience discomfort, fatigue, numbness, or pain in your hands/wrist/arm region?  
Mark only one.

☐ Daily  
☐ Weekly  
☐ Monthly

On average, how severe is the discomfort, fatigue, numbness, or pain in your hands/wrist/arm region?  
Mark only one.

☐ Mild  
☐ Moderate  
☐ Severe



### For Back/Torso

48. In the past 12 months have you experienced any discomfort, fatigue, numbness, or pain that *relates to your job*?

☐ No ☐ Yes

How often do you experience discomfort, fatigue, numbness, or pain in your back/torso region?  
Mark only one.

☐ Daily  
☐ Weekly  
☐ Monthly

On average, how severe is the discomfort, fatigue, numbness, or pain in your back/torso region?  
Mark only one.

☐ Mild  
☐ Moderate  
☐ Severe



### For Legs/Feet

49. In the past 12 months have you experienced any discomfort, fatigue, numbness, or pain that *relates to your job*?

☐ No ☐ Yes

How often do you experience discomfort, fatigue, numbness, or pain in your legs/feet region?  
Mark only one.

☐ Daily  
☐ Weekly  
☐ Monthly

On average, how severe is the discomfort, fatigue, numbness, or pain in your legs/feet region?  
Mark only one.

☐ Mild  
☐ Moderate  
☐ Severe



### For Head/Eyes

50. In the past 12 months have you experienced any discomfort, fatigue, numbness, or pain that *relates to your job*?

☐ No ☐ Yes

How often do you experience discomfort, fatigue, numbness, or pain in your head/eyes region?  
Mark only one.

☐ Daily  
☐ Weekly  
☐ Monthly

On average, how severe is the discomfort, fatigue, numbness, or pain in your head/eyes region?  
Mark only one.

☐ Mild  
☐ Moderate  
☐ Severe



## E. General Questions

51. In the past 12 months have you seen a health care provider for any pain or discomfort that you think *relates to your job*? ☐ Yes ☐ No

52. Do you experience any work-related pain or discomfort that does not improve when you are away from work overnight or over the weekend? ☐ Yes ☐ No

53. In the past 12 months, has any work-related pain or discomfort caused you difficulty in carrying out normal activities (e.g., job, hobby, leisure, etc.)? ☐ Yes ☐ No

54. Has a health care provider ever told you that you have any of the following conditions which you think might be *related to your work*? ☐ Yes ☐ No

Tendonitis / Tenosynovitis  
Epicondylitis (Tennis Elbow)  
Thoracic Outlet Syndrome  
Overuse Syndrome

Ganglion Cyst  
Bursitis  
Back Strain

Trigger Finger  
Carpal Tunnel Syndrome  
Knee or Ankle Strain

55. Do you have or have you ever had one or more of the following conditions? ☐ Yes ☐ No

Wrist Fracture  
Thyroid Disorder  
Rheumatoid Arthritis

Hypertension  
Diabetes

Kidney Disorders  
Gout

## F. Work Content

The section below enables you to describe the content of the work that you do in your current job. Fill in the box that describes how frequently you do the task listed, based on the following definitions:

Routine: Performed on three or more days per week.  
 Non-routine: Performed two days a week or less.  
 Seasonal: Performed only during certain times of the year.  
 Never: You do not perform this type of work.

	ROUTINE	NON-ROUTINE	SEASONAL	NEVER
56. Abrading .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. Baking .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. Bolting/screwing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. Calling (telephone use) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. Chipping .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. Cleaning by hand .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. Cleaning with high pressure equipment .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. Coating/immersing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. Cooking .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. Copying .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. Crimping .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. Cutting/shearing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. Drafting/CAD system use ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
69. Drilling .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
70. Driving (vehicles) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
71. Excavating .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
72. Filing/general administrative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
73. Flame cutting/arc cutting ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
74. Folding/fitting .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
75. Gluing/laminating .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
76. Grinding/buffing/polishing ..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
77. Hammering .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
78. Lifting .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
79. Loading (pallets, trucks, carts, aircraft) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
80. Lubricating .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
81. Machining .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
82. Masoning .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
83. Melting .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
84. Molding .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	ROUTINE	NON-ROUTINE	SEASONAL	NEVER
85. Monitoring (visual displays)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
86. Mousing (for computer work)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
87. Nailing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
88. Opening/closing heavy doors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
89. Packing/packageing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
90. Painting/spray painting .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
91. Paving .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
92. Pumping (by hand) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
93. Riveting/bucking .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
94. Sanding .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
95. Sawing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
96. Scanning (using bar code readers) .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
97. Sewing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
98. Soldering/brazing .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
99. Stapling .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100. Stripping/depainting by hand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
101. Stripping/depainting mechanically .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
102. Transporting loads on non-powered carts .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
103. Turning valves .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
104. Tying/twisting/wrapping .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
105. Typing/keying .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
106. Welding .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
107. Wheeling loads .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
108. Wiring .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
109. Wrenching/ratcheting .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
110. Writing/illustrating .....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please write in others here:				
111. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
112. _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## G. Process Improvement Opportunities

Think about your job as a whole, including routine, non-routine or seasonal work.

Read the questions listed below and describe the activities that you or your co-workers think place the greatest demands on your body.

113. Which tasks are the most awkward or require you to work in the most uncomfortable position?

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114. Which tasks take the most effort?

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115. Are there any tools or pieces of equipment that are notoriously hard to work with? (If possible, provide manufacturer and model)

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116. If you could make any suggestions that would help you do your job more easily or faster or better, what would you suggest?

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PLEASE DO NOT WRITE IN THIS AREA



23855

**Job Requirements and Physical Demands  
Survey**

**Administration Script**

## **(WELCOME AND INTRODUCTION)**

**Welcome and thank you** for taking the time to complete this occupational health survey. The survey will assess your job requirements and physical demands.

**The purpose of the Survey** is to enable the Air Force to better understand and identify opportunities for improving work in shops throughout the base.

After you complete the Survey, we will:

- analyze the results for the entire shop;
- determine a Priority Score for the shop;
- provide information to the Ergonomics Working Group.

We will then decide on priorities for follow-up and shop improvement.

**This is an anonymous Survey.** You will notice that we do not ask you to provide your name and there is no coding system. The Survey is also voluntary; you are not required to take the Survey; however, your participation is appreciated.

**We are** using the Survey to get an overall assessment of the experiences in your shop as a whole.

**We are not** looking at each person and your individual responses.

However, if you wish to request a follow-up visit by Public Health, you may do so.

## **(OVERVIEW OF THE SURVEY)**

The Survey is divided into a cover page and four parts.

I will give you a quick overview of each section so follow along with me as I go through the form.

The Cover Page asks for general information about yourself. Please fill out all of the information on this page with the exception of the “workplace identifier” section.

Turn to Page 2.

Part I is called “Job Factors.”

**For this section, please provide a response to all questions.**

This section allows you to describe certain job factors related to your work that occur on an approximately daily basis.

In Part III of the Survey, you will have a chance to tell us about the work that you do less often, like seasonal work.

Turn to Page 7.

Part II is called “Your Body’s Response to Work Demands.”

This section enables you to describe how your body has reacted in the past to physical job demands.

For example, describing whether you are comfortable or experience fatigue or discomfort, is one of the purposes of this part of the survey.

Again, we will making conclusions about the entire shop based on how all of you respond to the Survey questions.

We do not intend to focus on any one individual.

Turn to Page 9.

Part III is called “Work Content.”

This section allows you to list the tasks you perform in your work and how often you do them.

You will be able to tell us which types of tasks you do and approximately how often you do the tasks over a given period of time.

We will use this information to determine:

- what the typical/routine tasks are for your shop; and
- the variety of tasks that are done by your shop, even if they are not done very often.

Turn to page 11.

Part IV is called “Process Improvement Opportunities.”

The purpose of this section is to identify the tasks that you think place the greatest demands on your body.

For this section consider your routine, non-routine, and seasonal tasks and describe the tasks that you think are a problem.

We will need to know this information in order to help the Ergonomics Working Group decide which tasks may be good candidates for improvement.

**(START THE SURVEY PROCESS)**

Turn back to Page 1 and begin.

We expect that it will take you about 30 minutes to complete the Survey.

When you are finished with the entire survey, please turn it in to me.

Thank you again for your participation.

**(END OF INSTRUCTIONS)**



**Job Requirements and Physical Demands  
Survey**

**Scoring Sheets**

# SCORING SHEET

1

Although there are many ways to score the survey, we recommend that you work through one survey at a time, completing the parts as indicated. Make sure your tally marks are small enough so you have room for the entire shop.

## Part I - Job Factors

### A - Risk Factor Ratings (Questions 1 - 38)

Step 1	Step 2	Step 3	Step 4
For each body area, count the number of responses in the 2-4 hour column and in the 4-8 hour column. <b>If that number exceeds the criteria number in the box in the upper right</b> , make one tally mark. Place only one mark per survey in each box. Write the total of the tallies in the Total box.	Divide the Total tallies by the number of surveys from one shop.	Multiply that number by 100 to get the percentage.	Write the Risk Factor Rating (Low, Med, High) in the box for each body part using the scale below.  <div> <div>Low</div> <div>Med</div> <div>High</div> </div> <div> <div>≤30%</div> <div>31 - 60%</div> <div>61+%</div> </div>
<b>Shoulder/Neck Tally Box</b> Questions 1-7  <div>Total</div>	<div>2</div>  <div>number of surveys</div> <div>÷ _____ = _____ x 100 = _____%</div>		<b>A.1 Shoulder/Neck</b> Risk Factor Rating  <div></div>
<b>Hand/Wrist/Arm Tally Box</b> Questions 8-21  <div>Total</div>	<div>4</div>  <div>number of surveys</div> <div>÷ _____ = _____ x 100 = _____%</div>		<b>A.2 Hand/Wrist/Arm</b> Risk Factor Rating  <div></div>
<b>Back/Torso Tally Box</b> Questions 22-30  <div>Total</div>	<div>2</div>  <div>number of surveys</div> <div>÷ _____ = _____ x 100 = _____%</div>		<b>A.3 Back/Torso</b> Risk Factor Rating  <div></div>
<b>Legs/Feet Tally Box</b> Questions 31-34  <div>Total</div>	<div>1</div>  <div>number of surveys</div> <div>÷ _____ = _____ x 100 = _____%</div>		<b>A.4 Legs/Feet</b> Risk Factor Rating  <div></div>
<b>Head/Eyes Tally Box</b> Questions 35-38  <div>Total</div>	<div>1</div>  <div>number of surveys</div> <div>÷ _____ = _____ x 100 = _____%</div>		<b>A.5 Head/Eyes</b> Risk Factor Rating  <div></div>

## 2

### B - Organizational Factors (Questions 39-44)

### C - Physical Effort Score (Question 45)

Step 1	Step 2	Step 3
Write the numeric score (6-20) for each survey in the tally box. Add the numbers and write the total in the total box.	Divide that total by the number of surveys.	Write the average in the Physical Effort box.
<p><b>Tally Box</b></p>          <div style="border: 1px solid black; width: 150px; height: 80px; margin-left: auto;"> <p><b>Total</b></p> </div>	$\frac{\text{number of surveys}}{\quad} =$	<p>C. Physical Effort Factor Score</p> <div style="border: 1px solid black; width: 100px; height: 70px; margin-left: auto;"></div>

# SCORING SHEET

3

## Part II - The Body's Response to Work Demands

### D - Discomfort Rating (Questions 46 - 60)

Step 1	Step 2	Step 3	Step 4
For each body part, look at the responses to the second and third questions (47 & 48, 50&51, 53&54, 56&57, 59&60). If participants have answered them, then look at the Criteria Table. If the combination of answers fits one of the categories, then make a tally mark in the tally box for each body part. For example: if 47 is "weekly" and 48 is "moderate" then make a tally mark. Count and put total in Total box.	Divide the total tallies by the number of surveys from one shop.	Multiply that number by 100 to get the percentage.	Write the Discomfort Rating (Low, Med, High) in the box for each body part using the scale below.  <div> <div>Low</div> <div>Med</div> <div>High</div> <div>≤30%</div> <div>31 - 60%</div> <div>61+%</div> </div>

### Criteria Table

	Mild	Moderate	Severe
Daily			
Weekly			
Monthly			

Shoulder/Neck Tally Box Question 46-48	number of surveys	D.1 Shoulder/Neck Discomfort Rating
Total	÷ _____ = _____ x 100 = _____ %	
Hand/Wrist Arm Tally Box Question 49-51	number of surveys	D.2 Hand/Wrist/Arm Discomfort Rating
Total	÷ _____ = _____ x 100 = _____ %	
Back/Torso Tally Box Question 52-54	number of surveys	D.3 Back/Torso Discomfort Rating
Total	÷ _____ = _____ x 100 = _____ %	
Legs/Feet Tally Box Question 55-57	number of surveys	D.4 Legs/Feet Discomfort Rating
Total	÷ _____ = _____ x 100 = _____ %	
Head/Eyes Tally Box Question 58-60	number of surveys	D.5 Head/Eyes Discomfort Rating
Total	÷ _____ = _____ x 100 = _____ %	

# SCORING SHEET

4

## Part II - The Body's Response

### E - General Questions (Questions 61 - 65)

Step 1		Step 2	
Look at question 61 and tally only the "yes" answers in the tally box for that question. Count and write the total in the total box.		Write the total in the Health Care Provider Visit score box.	
Question 61 Tally Box		E.1 Health Care Provider Visit Score	
<div>Total</div>		<div></div>	
Step 1	Step 2	Step 3	Step 4
Look at each question and tally only the "yes" answers in the tally box for that question. Count and write the total in the Total box.	Divide the total tallies for that question by the number of surveys.	Multiply that number by 100 to get the percentage.	Write the shop percentage in the box provided.
Question 62 Tally Box	E.2 Recovery Time Score		
<div>Total</div>	<div>number of surveys</div> <div>÷ _____ = _____ x 100 =</div> <div>%</div>		
Question 63 Tally Box	E.3 Activity Interruption Score		
<div>Total</div>	<div>number of surveys</div> <div>÷ _____ = _____ x 100 =</div> <div>%</div>		
Question 64 Tally Box	E.4 Previous Diagnosis		
<div>Total</div>	<div>number of surveys</div> <div>÷ _____ = _____ x 100 =</div> <div>%</div>		
Question 65 Tally Box	E.5 Contributing Factors Score		
<div>Total</div>	<div>number of surveys</div> <div>÷ _____ = _____ x 100 =</div> <div>%</div>		

## 5

## F - Work Content (Items 66-122)

[illegible]

# Appendix C: Level 1 Ergonomics Guide Forms

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This appendix presents the forms for the Level 1 Ergonomics Guide (Maintenance, Warehouse, and Service Work Areas) on the following pages. For their use, please refer to the Level 1 Ergonomics Users Guide located on the course CD.

<b>Level I Ergonomics Assessment Checklist for Maintenance, Warehouse, and Service Work Areas</b>	Survey Date (YYMMDD)	<b>Workplace Identifier:</b>	
<i>(use this space for mechanical imprint)</i>	Base	Organization	
	Workplace		
	Bldg. No/Location	Room/Area	
	AFSC/Job Series		
	Job Name:		
BEF Technician: _____ Sign			



## Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

### Part I - Work Content (Description of Tasks Performed)

Technician:  
Date:

For this section, work with the employee to determine those recurring jobs/tasks that are most difficult on the body. Ask the employee the following questions:

- “In terms of stress to the body, what are the most difficult, fatiguing jobs/tasks that you do?”
- “Which of those jobs/tasks do you perform on a regular basis (or occur most frequently)?”

Using the Maintenance, Warehouse, and Service Areas Task Key List as a reference, write in the task names in the Work Content Matrix below. If the employee mentions tasks which are not included on the Task Key List, write-in the additional tasks in the Task Key List. **Note: If the person mentions several jobs which each have multiple tasks, complete a separate checklist for each job.**

For each task performed, determine the approximate task frequency using the following proportions of job time:

- > 50 % (High):** The total percentage of work time spent performing the task is greater than 50%.
- 10-50 % (Moderate):** The total percentage of work time spent performing the task is between 10 and 50%.
- < 10 % (Low):** The total percentage of work time spent performing the task is less than 10%.

For each task, check the most appropriate circle in the Work Content Matrix below to indicate approximate task frequency. If lifting/high force exertions occur in the task, indicate by checking the appropriate circle.

#### WORK CONTENT MATRIX

Task	<u>Lifting / Exertion</u> Occur in Task	<u>Task Frequency</u> (Check one)		
		(Low) 0-9%	(Moderate) 10-50%	(High) 51-100%
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

☐ = Critical tasks are indicated by the shaded boxes in the Work Content Matrix. Critical tasks are tasks which occur greater than 10% of the job time or which involve lifting or high forces.

#### **ONLY COMPLETE THE CHECKLIST FOR CRITICAL TASKS.**

**LOW FREQUENCY TASKS WITH LIFTING OR EXERTION ARE SCORED AS MODERATE FREQUENCY.**

### Performance Measures

How is your performance measured? \_\_\_\_\_

## Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

### Part I - Work Content (Description of Tasks Performed)

#### Maintenance, Warehouse, and Service Task Key List

Abrading	Masoning
Assembling/Disassembling – Internal Components	Media Blasting – Blast Cabinet
Assembling/Repairing (Bench Work)	Media Blasting – High Pressure Gun
Bagging	Melting
Baking	Molding
Bolting/Screwing	Monitoring (of Displays)
Chipping	Nailing
Cleaning by Hand (Detail Work)	Opening/Closing Heavy Doors
Cleaning with High Pressure Equipment	Ordnance Disposal
Coating/Immersing	Packing
Commissary/Meat Cutting	Packing/Shipping
Cooking (Food Preparation)	Painting/Spraying
Cooking (Short Order Grill)	Palletizing
Crimping	Picking/Stocking
Cutting/Shearing	Paving
Dishwashing	Pumping
Drilling	Prying
Driving (Vehicles)	Pumping
Excavating/Shoveling	Riveting/Bucking
Flame Cutting	Sanding
Folding/Fitting	Sawing
Food Serving	Scanning Groceries/Tendering
Fork Lift Truck Operating (sitting)	Scanning/Bar Code Reader (Hand-held)
Fork Lift Truck Operating (standing)	Sewing
Forming	Soldering
Gluing/Laminating (Doping)	Stripping/Depainting by Hand
Grinding	Stripping/Depainting by Mechanical Methods
Hammering	Transporting Loads on Non-powered Carts
Hose Handling	Turning Valves
Inspect and Repairing Support Equipment	Tying/Twisting/Wrapping
Lifting	Visual Inspection
Loading/Unloading	Welding
Lubricating	Wiring
Machining	Wrenching/Ratcheting
Masking	

# Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

## Part II - Checklist, Shoulder / Neck

### Job Factors

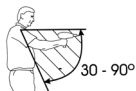
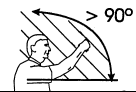
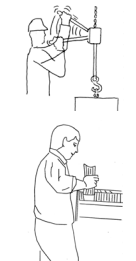


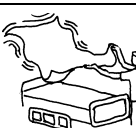
For each Job Factor, select the appropriate Job Factor Frequency score in the appropriate Task Frequency column using the following guidelines:

**Frequently (F):** Job Factor occurs more than 50% of the task time

**Sometimes (S):** Job Factor occurs for 10-50% of the task time

**Infrequently/Never (N):** Job Factor occurs less than 10% of the task time or does not apply

### Critical Tasks

Job Factor		Task Name:		Task Name:		Task Name:		Comments
		Task Frequency		Task Frequency		Task Frequency		
		Moderate 10-50%	High 51-100%	Moderate 10-50%	High 51-100%	Moderate 10-50%	High 51-100%	
	<b>1.1 Repeated reaching or arms held away from the body while unsupported:</b>							
	<b>Below shoulder level</b> (15-90 degrees away from body)	F S N 1 1 0	F S N 3 1 0	F S N 1 1 0	F S N 3 1 0	F S N 1 1 0	F S N 3 1 0	
	<b>OR</b>							
	<b>Above shoulder level</b> (>90 degrees away from body)	F S N 3 1 0	F S N 4 1 0	F S N 3 1 0	F S N 4 1 0	F S N 3 1 0	F S N 4 1 0	
	<b>1.2 Repeated arm forces exceeding 10 lbs. (4.5 kg.)</b> (e.g. roughly equivalent to lifting a gallon of milk)	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	
	<b>1.3 Holding/carrying materials exceeding 25 lbs. (11.3 kg.)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	
	<b>1.4 Head/neck bent, tilted, or twisted</b> (e.g., display too high or too far away)	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	
	<b>1.7 High speed, sudden shoulder movements</b> (e.g., opening a stuck door, pulling and yanking on a bed linens to remove them)	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	F S N 4 1 0	
	<b>Task Scores =</b> <b>(column total)</b>							

# Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

## Part II - Checklist, Hand/Wrist/Arm

### Job Factors







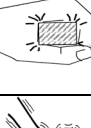

For each Job Factor, select the appropriate Job Factor Frequency score in the appropriate Task Frequency column using the following guidelines:

**Frequently (F):** Job Factor occurs more than 50% of the task time

**Sometimes (S):** Job Factor occurs for 10-50% of the task time

**Infrequently/Never (N):** Job Factor occurs less than 10% of the task time or does not apply

### Critical Tasks

Job Factor	Task Name:	Task Name:	Task Name:	Comments
	Task Frequency	Task Frequency	Task Frequency	
	Moderate 10-50%	High 51-100%	Moderate 10-50%	
 <b>2.1 Bent wrists (&gt;10 degrees in any direction)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	
 <b>2.2 Repeated hand, wrist, or arm movements (includes forearm rotation) (e.g., scanning groceries, washing dishes)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	
 <b>2.3 Repeated finger movements (e.g., repetitive keying tasks, operating buttons on hand-held scanners)</b>	F S N 1 1 0	F S N 3 1 0	F S N 1 1 0	
 <b>2.4 Hyperextension of thumb/finger (e.g., using pliers with a wide handle span; using a small input device)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	
 <b>2.5 Hand forces; fingertip force &gt;2 lbs. (.9 kg.) (e.g., 2 lbs. is roughly equal to holding fingernail clippers closed) or full hand force &gt;8 lbs. (3.6 kg.) (e.g., 8 lbs. is roughly equal to holding a gallon of milk)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	
 <b>2.6 Hard edges (e.g., tool handle or work area presses into fingers or hand, holding box by cut-out handles or strapping)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	
 <b>2.7 Exposure to hand-transmitted vibration, impact forces, or torque (e.g., using a nail gun)</b>	F S N 1 1 0	F S N 4 1 0	F S N 1 1 0	
 <b>2.8 Hands/fingers exposed to cold temperatures (e.g., working outside in winter environment, working in freezers, meatpacking)</b>	F S N 1 0 0	F S N 2 1 0	F S N 1 0 0	
<b>Task Scores = (column total)</b>				

## Part II - Checklist, Back/Torso

[illegible]

# Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

## Part II - Checklist, Legs/Feet

### Job Factors





For each Job Factor, select the appropriate Job Factor Frequency score in the appropriate Task Frequency column using the following guidelines:

**Frequently (F):** Job Factor occurs more than 50% of the task time

**Sometimes (S):** Job Factor occurs for 10-50% of the task time

**Infrequently/Never (N):** Job Factor occurs less than 10% of the task time or does not apply

### Critical Tasks

Job Factor		Task Name:			Task Name:			Task Name:			Comments			
		Task Frequency			Task Frequency			Task Frequency						
		Moderate 10-50%	High 51-100%		Moderate 10-50%	High 51-100%		Moderate 10-50%	High 51-100%					
	<b>4.1 Standing in a fixed position (especially on hard floor surface)</b>	F 1	S 1	N 0	F 4	S 1	N 0	F 1	S 1	N 0	F 4	S 1	N 0	
	<b>4.2 Exposure to hard edges or surfaces (e.g., edge of chair presses into back of leg, task requires leaning against the hard edge of a table)</b>	F 1	S 1	N 0	F 4	S 1	N 0	F 1	S 1	N 0	F 4	S 1	N 0	
	<b>4.3 Awkward leg postures (e.g. kneeling, squatting crawling, etc.)</b>	F 1	S 1	N 0	F 4	S 1	N 0	F 1	S 1	N 0	F 4	S 1	N 0	
	<b>4.4 Use of foot pedal while standing</b>	F 1	S 1	N 0	F 2	S 1	N 0	F 1	S 1	N 0	F 2	S 1	N 0	
	<b>Task Scores = (column total)</b>													

# Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

## Part II - Checklist, Head/Eyes

### Job Factors



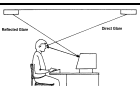
For each Job Factor, select the appropriate Job Factor Frequency score in the appropriate Task Frequency column using the following guidelines:

**Frequently (F):** Job Factor occurs more than 50% of the task time

**Sometimes (S):** Job Factor occurs for 10-50% of the task time

**Infrequently/Never (N):** Job Factor occurs less than 10% of the task time or does not apply

### Critical Tasks

Job Factor		Task Name:		Task Name:		Task Name:		Comments
		Task Frequency		Task Frequency		Task Frequency		
		Moderate 10-50%	High 51-100%	Moderate 10-50%	High 51-100%	Moderate 10-50%	High 51-100%	
	<b>5.1 Light levels are too high or too low</b> (difficult to see)	F S N 1 1 0	F S N 2 1 0	F S N 1 1 0	F S N 2 1 0	F S N 1 1 0	F S N 2 1 0	
	<b>5.2 Task is visually demanding</b> (e.g., requires close examination of work piece or computer screen)	F S N 1 1 0	F S N 3 2 0	F S N 1 1 0	F S N 3 2 0	F S N 1 1 0	F S N 3 2 0	
	<b>5.3 Glare is present on the work surface or computer screen</b>	F S N 1 1 0	F S N 2 1 0	F S N 1 1 0	F S N 2 1 0	F S N 1 1 0	F S N 2 1 0	
	<b>Task Scores =</b> (column total)							

## Part III - Environmental

Low	Med	High
0-3	4-7	8+

[illegible]



# Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

## ERGONOMIC SUMMARY REPORT

Technician \_\_\_\_\_

Date \_\_\_\_\_

### Job Description

**Scoring Summary:** Transfer scores from individual scoring sheets.

Body Region	Task Scores				Priority Score by Body Region	Priority Rating by Body Region
	Task Name:	Task Name:	Task Name:	Task Name:	Add across row and divide by # of tasks for average	High: 8+ Med: 4-7 Low: 0-3
<u>Shoulder/Neck</u>					=	High Med Low
<u>Hand/Wrist/Arm</u>					=	High Med Low
<u>Back/Torso</u>					=	High Med Low
<u>Legs/Feet</u>					=	High Med Low
<u>Head/Eyes</u>					=	High Med Low

Select the highest body region score for each task then circle below for High, Med, Low	Highest Score	Highest Score	Highest Score	Highest Score	Environmental Rating
High: 8+ Med: 4-7 Low: 0-3	High Med Low	High Med Low	High Med Low	High Med Low	

Overall	
Highest Priority Score by Body Region	Overall Priority Rating <b>High</b> <b>Med</b> <b>Low</b>

## LEVEL I ERGONOMICS ASSESSMENT SUMMARY AND RECOMMENDATIONS

Level I - Ergonomics Assessment for Maintenance, Warehouse, and Service Work Areas

Date (YYMMDD)		Workplace Identifier:	
(use this space for mechanical imprint)		Base	Organization
		Workplace	
		Bldg. No./Location	Room/Area
		AFSC/Job Series	Job Name:

CRITICAL TASKS IN PRIORITY ORDER						
Task Name	Task Rating	Body Regions and Ratings (Circle one for each region)				
		Shoulder/Neck	Hands/Wrists/ Arms	Back/Torso	Legs/Feet	Head/Eyes
1.	High Med	High Med	High Med	High Med	High Med	High Med
2.	High Med	High Med	High Med	High Med	High Med	High Med
3.	High Med	High Med	High Med	High Med	High Med	High Med
4.	High Med	High Med	High Med	High Med	High Med	High Med

OVERALL JOB RATING			
RATING:      High      Medium (Circle one)		PRIORITY BODY REGION: SHOULDER/NECK      HAND/WRIST/ARM (circle one)      LEGS/FEET      BACK/TORSO      HEAD/EYES	

- Findings are consistent with results from Job Requirements and Physical Demands Survey (JR/PD):      ☐ Yes    ☐ No    ☐ N/A  
Comment: \_\_\_\_\_
- Findings are consistent with AF Occupational Illness Investigation:      ☐ Yes    ☐ No    ☐ N/A  
Comment: \_\_\_\_\_

RECOMMENDATIONS FOR FOLLOW-UP	
<div>Modifications and adjustments</div> <div><hr/><hr/><hr/><hr/><hr/></div> <div>Expected Benefits    <input type="checkbox"/> Health/Safety (Check all that apply)    <input type="checkbox"/> Productivity/Quality</div>	<div>Major changes and/or purchases</div> <div><hr/><hr/><hr/><hr/><hr/></div> <div>Expected Benefits    <input type="checkbox"/> Health/Safety (Check all that apply)    <input type="checkbox"/> Productivity/Quality</div>
BEF (Sign) _____	

## Corrective Action List (Maintenance and Inspection Work Areas)

Select the corrective action from the **case studies** pages paying particular attention to the body regions that are primary and secondary concerns. Place a ✓ in the appropriate boxes below as you select from each case study.

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
1. Alternate between sitting and standing tasks			A.5.2.4
2. Avoid high force tasks while seated			A.5.2.4
3. Change a pinch grip to a power grip			
4. Change lifting/carrying task into a rolling or sliding task			A.5.2.7
5. Change posture frequently			A.5.2.4
6. Call for assistance if necessary			
7. Direct cold air away from the hands			A.5.1.2
8. Distribute intensive activities throughout the process			
9. Eliminate exposure to hard edges			
10. Eliminate need to constantly hold trigger			A.5.1.2
11. Eliminate unnecessary tasks			
12. Encourage appropriate seasonal clothing			
13. Encourage ergonomic work techniques			
14. Encourage person to have visual disorders corrected			
15. Heat metal/material to make more pliable			
16. Improve cleat design			
17. Improve floor condition			
18. Improve visual access to work			
19. Improve wheel			

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
condition			
20. Incorporate rest pauses			
21. Increase handle length to improve leverage			A.5.1.2
22. Increase light levels			
23. Increase room temperature			
24. Increase size of work surface			
25. Increase task variety			A.5.2.4
26. Increase weight of work piece			
27. Lower light levels			
28. Lower the chair			A.5.2.5
29. Lower the handle			
30. Lower the monitor/screen			
31. Lower the person			A.5.2.5
32. Lower the work piece/work surface			A.5.2.5
33. Maintain bolts and screws			
34. Maintain hand tool/power tools			A.5.2.2
35. Maintain tracks, rollers, and movement mechanisms			
36. Minimize material which must be removed manually			
37. Modify facilities to decrease handling			
38. Move closer to the work location			A.5.2.3
39. Move monitor/screen closer to body			
40. Move monitor/screen further away from body			

## Corrective Action List (Maintenance and Inspection Work Areas) Cont'd

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
41. Move work piece closer to body			
42. Obtain patient's assistance			
43. Place the trigger/switch to allow a comfortable hand/arm position			
44. Position mouse/input device next to the keyboard			
45. Position the monitor/screen in front of the body			
46. Provide a ball-bearing rotation table			
47. Provide a carrying container for tools/supplies			A.5.2.7
48. Provide a cart			A.5.2.7
49. Provide a flat/level keyboard			
50. Provide a foot pedal which requires the correct amount of force to use			
51. Provide a foot pump			
52. Provide a footrail or footrest			A.5.2.6
53. Provide a full-sized input device			
54. Provide a high friction gripping surface			A.5.2.2
55. Provide a hook-type tool to pull items			
56. Provide a keyboard which does not require excessive keying forces			
57. Provide a larger worksurface			
58. Provide a lighter weight door			
59. Provide a lighter weight tool			A.5.1.2
60. Provide a magnifying glass			
61. Provide a mechanical lift device			A.5.1.1

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
62. Provide a multi-finger trigger			A.5.1.2
63. Provide a padded, compressible surface to lay on			
64. Provide a padded, compressible surface to sit on			
65. Provide a palm rest			
66. Provide a power tool			A.5.1.2
67. Provide a powered cart			
68. Provide a shorter handle to reduce arm movement			
69. Provide a smaller container			A.5.2.7
70. Provide a spring release mechanism on plier-type tools			A.5.1.2
71. Provide a storage bag which is easy to pack/unpack			
72. Provide a swivel connection for air hose			A.5.2.2
73. Provide a telephone head set			
74. Provide a tool that minimizes exposure to vibration/impact/torque			A.5.1.2
75. Provide a tool which can be used with both hands			A.5.1.2
76. Provide a tool which requires minimal force to use			A.5.1.2
77. Provide a tool with an appropriate handle angle			A.5.1.2
78. Provide a wheel barrow			
79. Provide a work surface which is adjustable in height			
80. Provide adequate leg clearance			
81. Provide adequate toe clearance			
82. Provide adequate work space			

## Corrective Action List (Maintenance and Inspection Work Areas) Cont'd

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
83. Provide an adjustable height lift table			
84. Provide an adjustable mirror			
85. Provide an alternative keyboard			
86. Provide an appropriate anti-fatigue mat			
87. Provide an appropriate chair/stool			
88. Provide an appropriate handle diameter			A.5.1.2
89. Provide an appropriate handle grip span on plier-type tools			A.5.1.2
90. Provide an auxiliary table			
91. Provide anti-vibration materials			A.5.2.2
92. Provide appropriate abrasive material			
93. Provide appropriate gloves			
94. Provide appropriate handles			A.5.1.2
95. Provide appropriate knee protection			
96. Provide appropriate shoe inserts			
97. Provide appropriate solvent solution			
98. Provide automatic or semi-automatic feed for fasteners			
99. Provide bolt and screw head designs which are durable			
100. Provide computer glasses			
101. Provide controls which do not require excessive forces			
102. Provide displays which are readable and easy to			

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
understand			
103. Provide extensions for tools			A.5.2.2
104. Provide handles with insulating material			A.5.1.2
105. Provide portable heaters			
106. Provide powered assistance for a manual activity			
107. Provide powered or mechanical assistance for door			
108. Provide protection from glare from natural light			
109. Provide protection from glare from overhead lights/task lights			
110. Provide shields or barriers from the wind			
111. Provide support for reference documents			
112. Provide support for the arms			
113. Provide support for the cable or hose			A.5.2.2
114. Provide support for the head			
115. Provide support for the lower back			
116. Provide support for the tool			A.5.1.2
117. Provide support for the upper body			
118. Provide support for the work piece			
119. Provide wheels			
120. Raise the chair			A.5.2.5
121. Raise the handle			
122. Raise the monitor/screen			
123. Raise the person			A.5.2.5
124. Raise the work piece/work surface			A.5.2.5
125. Recess container into work surface			
126. Reduce carry distance			

## Corrective Action List (Maintenance and Inspection Work Areas) Cont'd

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
127. Reduce depth of storage container			A.5.2.7
128. Reduce force required to install or remove the component			
129. Reduce number of fasteners used			
130. Reduce the angle a person has to turn to transfer an item			A.5.2.7
131. Reduce weight of work piece			
132. Remove obstructions			A.5.2.3
133. Replace abrasive or cutting material frequently			
134. Replace standing foot pedals with alternative controls			
135. Reposition foot pedal			A.5.2.6
136. Rotate the work piece			
137. Sharpen blades frequently			

### Job Factors

Corrective Action	Action Selected		Implementation Reference (Appendix 5)
	Minor	Major	
138. Stand to perform task			A.5.2.4
139. Store materials in the same orientation in which they are used			
140. Use alternative fasteners			
141. Use heavy excavation equipment (e.g., back hoes)			
142. Use two or more persons to perform the transfer			A.5.2.7
143. Wear appropriate shoes			
144. Provide a machine/automate			
145. Modify foot pedal			A.5.2.6